Amendments to the Claims

Claims 1-192 are cancelled.

193. (New) A means for forming a Cu barrier layer by sputter-depositing a film from a target comprising Ti and one or more alloying elements selected from the group consisting of Be, B, Al, Si, Ca, Sc, V, Cr, Mn, Fe, Sr, Y, Zr, Cs, Ba, La, Hf, Ta, Ce, Pr, Nd, Sm, Gd, Dy, Ho and Er.

194. (New) The means of claim 193 wherein the one or more alloying elements comprise Zr.

195. (New) The means of claim 193 wherein the one or more alloying elements comprise V.

196. (New) The means of claim 193 wherein the one or more alloying elements comprise Cr.

197. (New) The means of claim 193 wherein the one or more alloying elements comprise Mn.

198. (New) The means of claim 193 wherein the one or more alloying elements comprise Fe.

199. (New) The means of claim 193 wherein the one or more alloying elements comprise Al.

200. (New) A method of inhibiting copper diffusion into a substrate, comprising:

forming a first layer comprising Ti and one or more alloying elements over the substrate, the one or more alloying elements having at least one of: (1) a standard electrode potential of less than about -1.0V; (2) a melting temperature of at least about 2400°C; and (3) at least an 8 percent difference in atomic radii relative to titanium; and

forming a copper-containing layer over the first layer, the first layer inhibiting copper diffusion from the copper-containing layer into the substrate.

201. (New) The method of claim 200 wherein the copper-containing layer is a copper-based layer.

202. (New) The method of claim 200 wherein at least one of the one or more alloying elements in the sputtering component are elements having the standard electrode potential of less than about -1.0V selected from the group consisting of Be, B, Al, Si, Ca, Sc, V, Cr, Mn, Fe, Sr, Y, Zr, Cs, Ba, La, Hf, Ta, Ce, Pr, Nd, Sm, Gd, Dy, Ho and Er.

203. (New) The method of claim 200 wherein at least one of the one or more alloying elements in the sputtering component are elements having at least an 8 percent difference in atomic radii relative to titanium, selected from the group consisting of Al, Ca, Mn, Fe, Co, Ni, Y, Zr, Hf, Be, B, C, Si, P, S, Cs, Ba, La, Ce, Pr, Nd, Sm, Gd, Dy, Ho, Er and Yb.

204. (New) The method of claim 200 wherein at least one of the one or more alloying elements in the sputtering component are elements having the melting temperature of at least about 2400°C, selected from the group consisting of C, Mo, and Ta.

205. (New) The method of claim 200 wherein the first layer is formed by sputter deposition from a target comprising the Ti and the one or more alloying elements having at least one of: (1) a standard electrode potential of less than about -1.0V; (2) a melting temperature of at least about 2400°C; and (3) at least a 8 percent difference in atomic radii relative to titanium.